

REMARKS

Summary of Office Action

The Examiner rejected claims 1-5, 7, and 10-14 under 35 U.S.C. § 102(b) as being allegedly anticipated by U.S. Pat. No. 6,473,166 to Ohishi *et al.* (hereinafter "Ohishi").

The Examiner rejected claims 8 and 9 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Ohishi.

The Examiner objected to claim 6 as being dependent upon a rejected based claim but stated that it would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Summary of the Applicants' Response

Claims 1 and 11-14 are currently amended to clarify the claimed subject matter; Applicants respectfully submit that no new matter has been added.

Claim 2 is canceled.

Claims 3-10 are previously presented.

It is respectfully submitted that the prior art cited by the Examiner does not anticipate or render obvious pending claims 1 and 3-14.

35 U.S.C. § 102 Rejections under Ohishi

In order to show that a claim is anticipated, the Examiner must show that "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP § 2131; *Verdegall Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). "Under the principles of inherency, if the prior art necessarily

functions in accordance with, or includes, the claimed limitations, it anticipates.” *Mehl/Biophile Int’l Corp. v. Milgraum*, 192 F.3d 1362 (Fed. Cir. 1999). Importantly, “[t]he mere fact that a certain thing may result from a given set of circumstances is insufficient to prove anticipation.” *Electro Med. Sys., S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048 (Fed. Cir. 1994).

Claims 1, 3-7, and 10

Amended claim 1 is directed to a surveying instrument for measuring the distance to a point and its associated horizontal and vertical angles by the use of reflected light. Amended claim 1 includes the elements of, *inter alia*, “determining an equation that includes said plane part by measuring distance, horizontal angle, and vertical angle to each of at least three points substantially forming a triangle on said plane part”, “associating digital image data to which said plane part belongs with said equation so that said plane part can be identified”, “extracting edges of at least two intersecting straight lines forming said plane part”, “determining said straight lines based on image data related to said edges by the least-squares method or the conditional least-squares method”, and “calculating an intersection point of said straight lines to determine said three-dimensional position of said plane part”.

Ohishi does not disclose or suggest extracting the edges of at least two intersecting straight lines forming a plane part or calculating an intersection point of straight lines to determine the three-dimensional position of the plane part. Instead, in the context of identifying or extracting lines, Ohishi discloses the use of the following equation to determine the distance between the lightwave range finder 1000 and the collimation point:

$$L_A = (x_A^2 + y_A^2 + z_A^2)^{0.5}$$

Ohishi, col. 9, lns. 19-28. Ohishi also discloses methods to determine “the positions on the three-dimensional coordinates of a, b, c, and d corresponding to other corners on the α surface” and “lengths of the sides of α surface” and “the area thereof.” Ohishi, col. 9, lns. 29-35.

Ohishi does not disclose the use of an image sensor to determine the location of straight lines that form the edges of a building or other object. In the present application, equations for straight lines are derived from the least-squares method or the conditional least-squares method on the basis of variations in the light intensity of pixels in an image. Paragraph [0037]. Based on these straight-line equations, the position of an intersection point in the image as well as horizontal and vertical angles relative to the center of the image are calculated. *Id.*

Because Ohishi does not disclose or suggest each and every element of amended claim 1, Applicant respectfully submits that Ohishi cannot anticipate claim 1 or claims 3-7 and 10 that depend therefrom.

Claim 11

Amended claim 11 is directed to a three-dimensional measurement method used in a surveying instrument and includes the elements of, *inter alia*, “extracting edges of at least two intersecting straight lines forming said plane part”, “determining said straight lines based on image data related to said edges by the least-squares method or the conditional least-squares method”, and “calculating an intersection point of said straight lines to determine said three-dimensional position of said plane part”.

As described above, Ohishi does not disclose extracting edges of at least two intersecting straight lines forming a plane part or calculating an intersection point of the straight lines to determine a three-dimensional position of a plane part. Because Ohishi does not disclose or

suggest each and every element of amended claim 11, Applicant respectfully submits that Ohishi cannot anticipate claim 11.

Claims 12-14

Amended claim 12 is directed to an electronic storage medium that stores a program describing operation steps for determining a three-dimensional position of a plane part. Amended claim 12 includes the elements of, *inter alia*, “extracting edges of at least two intersecting straight lines forming said plane part”, “determining said straight lines based on image data related to said edges by the least-squares method or the conditional least-squares method”, and “calculating an intersection point of said straight lines to determine said three-dimensional position of said plane part”.

As described above, Ohishi does not disclose extracting edges of at least two intersecting straight lines forming a plane part or calculating an intersection point of the straight lines to determine a three-dimensional position of a plane part. Because Ohishi does not disclose or suggest each and every element of amended claim 12, Applicant respectfully submits that Ohishi cannot anticipate claim 12 or claims 13-14 that depend therefrom.

35 U.S.C. § 103(a) Rejections Under Ohishi

The Examiner rejected claims 8 and 9 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Ohishi. These claims are dependent on claim 1, which has been amended to recite an arithmetic processing means that both (1) extracts the edges of at least two intersecting straight lines forming said plane part and (2) calculates an intersection point of the straight lines to determine a three-dimensional position of a plane part. To establish a *prima facie* case of obviousness, three basic criteria must be met:

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicant's disclosure. (*In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991)).

Manual of Patent Examining Procedure, § 2143. The Examiner has not met his burden of establishing a *prima facie* case of obviousness.

Because Ohishi does not disclose or suggest an arithmetic processing means that extracts the edges of at least two intersecting straight lines forming said plane part or calculates an intersection point of the straight lines to determine a three-dimensional position of a plane part, Applicants respectfully submit that claims 8 and 9 are not rendered obvious by Ohishi.

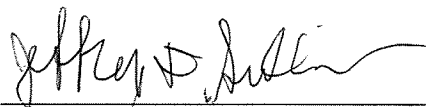
CONCLUSION

Applicant respectfully submits that this application is in condition for allowance, and such disposition is earnestly solicited. Applicant believes that no fees are due. In the event that any fees are due, please charge undersigned's Deposit Account No. 02-4377.

Respectfully submitted,

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